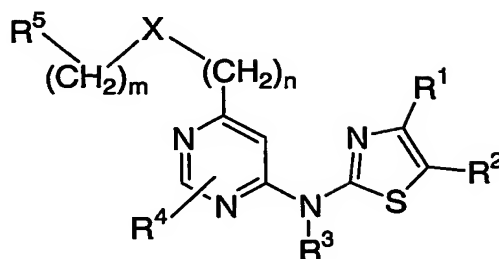


WHAT IS CLAIMED IS:

1. A compound of Formula I



I

or a pharmaceutically acceptable salt or stereoisomer thereof, wherein

X is O, S or NR³;

m is 0, 1, 2 or 3;

n is 0, 1, 2 or 3;

R¹ is:

- 1) H,
- 2) O_r(C₁-C₆)perfluoroalkyl,
- 3) OH,
- 4) CN,
- 5) halogen,
- 6) (C=O)_rO_s(C₁-C₁₀)alkyl,
- 7) (C=O)_rO_s(C₂-C₁₀)alkenyl,
- 8) (C=O)_rO_s(C₂-C₁₀)alkynyl,
- 9) (C=O)_rO_saryl,
- 10) (C=O)_rO_sheterocyclyl, or
- 11) (C₀-C₆)alkyl-NR^aR^b,

wherein r and s are independently 0 or 1, and said alkyl, alkenyl, alkynyl, aryl and heterocyclyl is optionally substituted with one or more substituents selected from R⁶;

R² is:

- 1) H,
- 2) $O_r(C_1-C_6)\text{perfluoroalkyl}$,
- 3) OH,
- 4) CN,
- 5) halogen,
- 6) $(C=O)_rO_s(C_1-C_{10})\text{alkyl}$,
- 7) $(C=O)_rO_s(C_2-C_{10})\text{alkenyl}$,
- 8) $(C=O)_rO_s(C_2-C_{10})\text{alkynyl}$,
- 9) $(C=O)_rO_s\text{aryl}$,
- 10) $(C=O)_rO_s\text{heterocyclyl}$, or
- 11) $(C_0-C_6)\text{alkyl-NR}^a\text{R}^b$,

wherein r and s are independently 0 or 1, and said alkyl, alkenyl, alkynyl, aryl and heterocyclyl is optionally substituted with one or more substituents selected from R^6 ;

15 R^3 is:

- 1) H,
- 2) SO_2R^c ,
- 3) $(C=O)_rR^c$, wherein r is 0 or 1, or
- 4) CO_2R^c ;

20

R^4 is:

- 1) H,
- 2) $O_r(C_1-C_6)\text{perfluoroalkyl}$,
- 3) OH,
- 25 4) CN,
- 5) halogen,
- 6) $(C=O)_rO_s(C_1-C_{10})\text{alkyl}$,
- 7) $(C=O)_rO_s(C_2-C_{10})\text{alkenyl}$,
- 8) $(C=O)_rO_s(C_2-C_{10})\text{alkynyl}$,
- 30 9) $(C=O)_rO_s\text{aryl}$,
- 10) $(C=O)_rO_s\text{heterocyclyl}$, or
- 11) $(C_0-C_6)\text{alkyl-NR}^a\text{R}^b$,

wherein r and s are independently 0 or 1, and said alkyl, alkenyl, alkynyl, aryl and heterocyclyl is optionally substituted with one or more substituents selected from R^6 ;

35

R⁵ is heterocyclyl wherein said heterocyclyl contains one or two additional heteroatoms selected from N, O and S, and is optionally substituted with one or more substituents selected from R⁶;

R⁶ is:

- 5 1) O_r(C=O)_sNR^aR^b,
- 2) (C=O)_rO_saryl,
- 3) (C=O)_rO_s-heterocyclyl,
- 4) halogen,
- 5) OH,
- 10 6) oxo,
- 7) O(C₁-C₃)perfluoroalkyl,
- 8) (C₁-C₃)perfluoroalkyl,
- 9) (C=O)_rO_s(C₁-C₁₀)alkyl,
- 10) CHO,
- 15 11) CO₂H, or
- 12) CN,

wherein r and s are independently 0 or 1, and said alkyl, aryl, and heterocyclyl are optionally substituted with one or more substituents selected from R^d;

20 R^a and R^b are independently:

- 1) H,
- 2) (C=O)_r(C₁-C₁₀)alkyl,
- 3) S(O)₂R^c,
- 4) (C=O)_rheterocyclyl,
- 25 5) (C=O)_raryl, or
- 6) CO₂R^c,

wherein r is 0 or 1 and said alkyl, heterocyclyl, and aryl optionally substituted with one or more substituents selected from R^d, or

30 R^a and R^b are taken together with the nitrogen to which they are attached to form a monocyclic or bicyclic heterocycle with 5-7 members in each ring and optionally containing, in addition to the nitrogen, one or two additional heteroatoms selected from N, O and S, said monocyclic or bicyclic heterocycle optionally substituted with one or more substituents selected from R^d;

35 R^c is (C₁-C₆)alkyl, aryl, benzyl, or heterocyclyl;

R^d is:

- 1) (C=O)_rO_s(C₁-C₁₀)alkyl, wherein r and s are independently 0 or 1, optionally substituted with up to three substituents selected from OH, (C₁-C₆)alkoxy, halogen, CN, oxo, N(R^e)₂ and S(O)₂R^c,
- 2) (C=O)N(R^e)₂,
- 3) O_r(C₁-C₃)perfluoroalkyl,
- 4) (C₀-C₆)alkylene-S(O)_mR^c, wherein m is 0, 1 or 2,
- 5) oxo,
- 6) OH,
- 7) halogen,
- 8) CN,
- 9) (C₀-C₆)alkylene-aryl, optionally substituted with up to three substituents selected from R^e,
- 10) (C₀-C₆)alkylene-heterocyclyl, optionally substituted with up to three substituents selected from R^e,
- 11) (C₀-C₆)alkylene-N(R^e)₂,
- 12) C(O)R^c,
- 13) CO₂R^c,
- 14) C(O)H, or
- 15) CO₂H; and

R^e is H, (C₁-C₆)alkyl, aryl, heterocyclyl or S(O)₂R^c.

2. The compound of Claim 1 or a pharmaceutically acceptable salt or stereoisomer thereof, wherein R¹ is selected from:

- 1) H,
- 2) CN,
- 3) halogen,
- 4) OH,
- 5) (C=O)_rO_s(C₁-C₁₀)alkyl, and
- 6) (C=O)_rO_s(C₁-C₁₀)alkyl-NR^aR^b.

3. The compound of Claim 2 or a pharmaceutically acceptable salt or stereoisomer thereof, wherein R² is selected from:

- 1) H,

- 2) CN,
- 3) OH
- 4) halogen,
- 5) phenyl, wherein said phenyl is optionally substituted with one or more
substituents selected from R⁶,
- 6) (C=O)_rO_s(C₁-C₁₀)alkyl, and
- 7) (C=O)_rO_s(C₁-C₁₀)alkyl-NR^aR^b.

4. The compound of Claim 3 or a pharmaceutically acceptable salt or
stereoisomer thereof, wherein R⁴ is selected from:

- 1) H,
- 2) CN,
- 3) halogen,
- 4) (C₁-C₆)alkyl,
- 5) (C₁-C₆)perfluoroalkyl, and
- 6) (C=O)_rO_sheterocyclyl.

5. The compound of Claim 4 or a pharmaceutically acceptable salt or
stereoisomer thereof, wherein R¹ is H; R² is CN or phenyl; R³ is H; and R⁴ is H or (C₁-
C₆)alkyl.

6. A compound of Claim 1 selected from:

- tert-butyl-4-({6-[(5-cyano-1,3-thiazol-2-yl)amino]pyrimidin-4-yl}oxy)piperidine-1-carboxylate;
2-{{6-(piperidin-4-yloxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
tert-butyl-4-({6-[5-phenyl-1,3-thiazol-2-yl]amino]pyrimidin-4-yl}oxy)piperidine-1-carboxylate;
N-(5-phenyl-1,3-thiazol-2-yl)-6-(piperidin-4-yloxy)pyrimidin-4-amine;
tert-butyl-4-[(6-[5-cyano-1,3-thiazol-2-yl]amino]pyrimidin-4-yl}oxy)methyl]-piperidine-1-
carboxylate;
tert-butyl-4-[(6-[5-phenyl-1,3-thiazol-2-yl]amino]pyrimidin-4-yl}oxy)methyl]-piperidine-1-
carboxylate;
N-(5-phenyl-1,3-thiazol-2-yl)-6-(piperidin-4-ylmethoxy)pyrimidin-4-amine;
2-{{2-methyl-6-(piperidin-4-yloxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
N-(5-phenyl-1,3-thiazol-2-yl)-6-(piperidin-4-yloxy)-2-methylpyrimidin-4-amine;
2-({2-methyl-6-[(3R)-pyrrolidin-3-yloxy]pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
2-({2-methyl-6-[(3S)-pyrrolidin-3-yloxy]pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;

- 2-[2-methyl-6-{{1-(2-morpholin-4-ylethyl)piperidin-4-yl}oxy}pyrimidin-4-yl)amino]-1,3-thiazole-5-carbonitrile;
- 2-[4-{{6-[5-cyano-1,3-thiazol-2-yl)amino]-2-methylpyrimidin-4-yl}oxy)piperidin-1-yl]-N-isopropylacetamide;
- 5 2-{{2-methyl-6-(3-morpholin-4-ylpropoxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 2-{{2-methyl-6-(2-morpholin-4-ylethoxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 2-{{2-methyl-6-(2-piperidin-1-ylethoxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 2-{{2-methyl-6-{{(2-morpholin-4-ylethyl)amino}pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
- 10 2-{{6-(piperidin-4-ylmethoxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 2-{{2-methyl-6-(piperidin-4-ylmethoxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 2-{{6-{{(3-morpholin-4-ylpropyl)amino}pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
- 2-{{2-methyl-6-(tetrahydro-2H-pyran-4-ylamino)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 15 2-{{6-{{3-(1H-imidazol-1-yl)propyl}amino}-2-methylpyrimidin-4-yl)amino}-1,3-thiazole-5-carbonitrile;
- 2-{{6-{{[(1,1-dioxidotetrahydrothien-3-yl)methyl]amino}-2-methylpyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
- 2-{{6-{{(1,4-dioxan-2-ylmethyl)amino}-2-methylpyrimidin-4-yl}amino)-1,3-thiazole-5-
- 20 carbonitrile;
- 2-{{6-{{(3-morpholin-4-ylpropyl)amino}pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
- 2-{{6-{{5-cyano-1,3-thiazol-2-ylamino}-2-methylpyrimidin-4-yl}amino)piperidin-1-yl]-N-isopropylacetamide;
- tert-butyl-4-{{6-{{(5-cyano-1,3-thiazol-2-ylamino)-2-methylpyrimidin-4-yl}amino)piperidine-1-
- 25 carboxylate;
- 2-{{2-methyl-6-(piperidin-4-ylamino)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- tert-butyl-4-{{6-{{(5-cyano-1,3-thiazol-2-yl)amino}methyl}-2-methylpyrimidin-4-yl}amino)piperidine-1-carboxylate;
- 2-{{2-methyl-6-{{(piperidin-4-ylmethyl)amino}pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
- 30 2-{{5-methyl-6-(piperidin-4-ylamino)pyrimidin-4-yl}oxy}-1,3-thiazole-5-carbonitrile;
- tert-butyl-2-{{6-{{(5-cyano-1,3-thiazol-2-yl)amino}-2-methylpyrimidin-4-yl}oxy)methyl}-morpholine-4-carboxylate;
- 2-{{2-methyl-6-(morpholin-2-ylmethoxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 2-{{2-methyl-6-(tetrahydro-2-pyran-4-yloxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;
- 35 2-{{2-isopropyl-6-(piperidin-4-yloxy)pyrimidin-4-yl}amino}-1,3-thiazole-5-carbonitrile;

2-({6-[(1,1-dioxidotetrahydrothien-3-yl)amino]-2-methylpyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;

2-{[2-methyl-6-(tetrahydrofuran-3-ylamino)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile;
tert-butyl{4-[(6-[(5-cyano-1,3-thiazol-2-yl)amino]-2-methylpyrimidin-4-yl)oxy]

5 methyl]piperidin-1-yl}acetate;

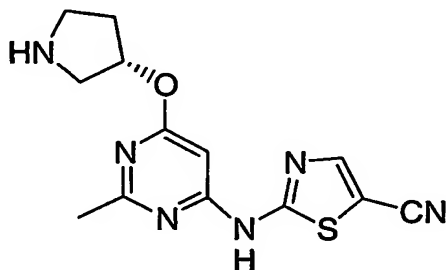
{4-[(6-[(5-cyano-1,3-thiazol-2-yl)amino]-2-methylpyrimidin-4-yl)oxy)methyl] piperidin-1-yl}acetic acid;

N-(tert-butyl)-2-{4-[(6-[(5-cyano-1,3-thiazol-2-yl)amino]-2-methylpyrimidin-4-yl)oxy)methyl]piperidin-1-yl}acetamide;

10 2-({2-methyl-6-[(2-morpholin-4-ylethyl)thio]pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile;
and

2-{[6-(piperidin-4-ylthio)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile;
or a pharmaceutically acceptable salt or stereoisomer thereof.

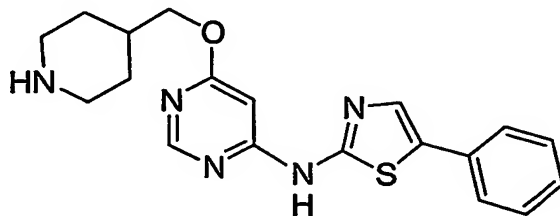
15 7. A compound which is 2-({2-methyl-6-[(3S)-pyrrolidin-3-yloxy]pyrimidin-4-yl}amino)-1,3-thiazole-5-carbonitrile



or a pharmaceutically acceptable salt or stereoisomer thereof.

20 8. A compound which is:

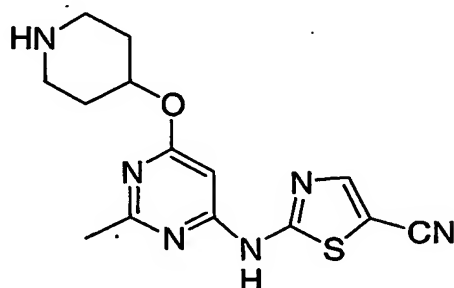
N-(5-phenyl-1,3-thiazol-2-yl)-6-(piperidin-4-yloxy)pyrimidin-4-amine



or a pharmaceutically acceptable salt thereof.

9. A compound which is:

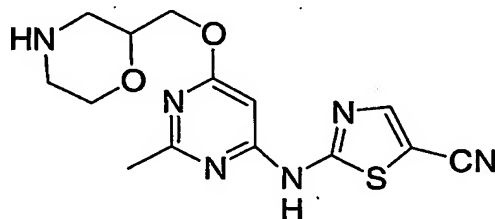
2-([2-methyl-6-(piperidin-4-yloxy)pyrimidin-4-yl]amino)-1,3-thiazole-5-carbonitrile



or a pharmaceutically acceptable salt thereof.

10. A compound which is:

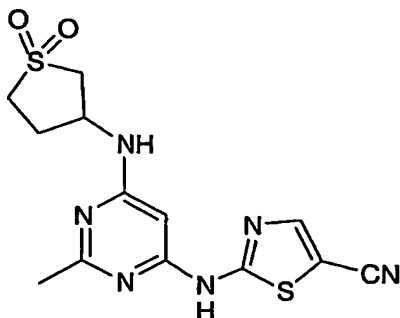
2-([2-methyl-6-(morpholin-2-ylmethoxy)pyrimidin-4-yl]amino)-1,3-thiazole-5-carbonitrile



or a pharmaceutically acceptable salt or stereoisomer thereof.

11. A compound which is:

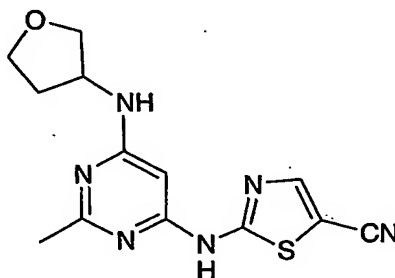
2-([6-[(1,1-dioxidotetrahydrothien-3-yl)amino]-2-methylpyrimidin-4-yl]amino)-1,3-thiazole-5-carbonitrile



or a pharmaceutically acceptable salt or stereoisomer thereof.

12. A compound which is:

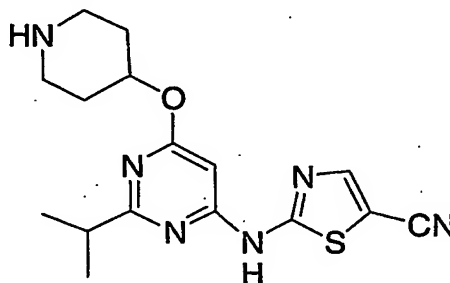
2-{[2-methyl-6-(tetrahydrofuran-3-ylamino)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile



or a pharmaceutically acceptable salt or stereoisomer thereof.

13. A compound which is:

2-{[2-isopropyl-6-(piperidin-4-yloxy)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile



or a pharmaceutically acceptable salt thereof.

14. A pharmaceutical composition which is comprised of a compound in accordance with Claim 1 and a pharmaceutically acceptable carrier.

15. A method of treating or preventing cancer in a mammal in need of such treatment which is comprised of administering to said mammal a therapeutically effective amount of a compound of Claim 1.

16. A method of treating or preventing cancer in accordance with Claim 15 wherein the cancer is selected from cancers of the brain, genitourinary tract, lymphatic system, stomach, larynx, and lung.

17. A method of treating or preventing cancer in accordance with Claim 15 wherein the cancer is selected from histiocytic lymphoma, lung adenocarcinoma, small cell lung cancers, pancreatic cancer, glioblastomas and breast carcinoma.

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18. A method of treating or preventing cancer in accordance with Claim 15 wherein the cancer is selected from colorectal cancer, prostate cancer, breast cancer, and lung cancer.

10

19. A method of treating or preventing a disease in which angiogenesis is implicated, which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of a compound of Claim 1.

15

20. A method in accordance with Claim 19 wherein the disease is an ocular disease.

20

21. A method of treating or preventing retinal vascularization which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of compound of Claim 1.

25

22. A method of treating or preventing diabetic retinopathy which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of compound of Claim 1.

23. A method of treating or preventing age-related macular degeneration which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of a compound of Claim 1.

30

24. The method of Claim 19 further comprising the use of photodynamic therapy with a photosensitive drug.

25. The method of Claim 24 wherein the photosensitive drug is verteporfin.

35

26. The method of Claim 24 wherein the disease is age-related macular degeneration.

27. A method of treating or preventing inflammatory diseases which comprises administering to a mammal in need of such treatment a therapeutically effective amount of a compound of Claim 1.

5

28. A method according to Claim 27 wherein the inflammatory disease is selected from rheumatoid arthritis, psoriasis, contact dermatitis and delayed hypersensitivity reactions.

10 29. A method of treating or preventing a tyrosine kinase-dependent disease or condition which comprises administering a therapeutically effective amount of a compound of Claim 1.

15 30. A pharmaceutical composition made by combining the compound of Claim 1 and a pharmaceutically acceptable carrier.

31. A process for making a pharmaceutical composition which comprises combining a compound of Claim 1 with a pharmaceutically acceptable carrier.

20 32. A method of treating or preventing bone associated pathologies selected from osteosarcoma, osteoarthritis, and rickets which comprises administering a therapeutically effective amount of a compound of Claim 1.

25 33. The composition of Claim 14 further comprising a second compound selected from:

- 1) an estrogen receptor modulator,
- 2) an androgen receptor modulator,
- 3) retinoid receptor modulator,
- 4) a cytotoxic agent,
- 30 5) an antiproliferative agent,
- 6) a prenyl-protein transferase inhibitor,
- 7) an HMG-CoA reductase inhibitor,
- 8) an HIV protease inhibitor,
- 9) a reverse transcriptase inhibitor,
- 35 10) another angiogenesis inhibitor, and

11) a PPAR- γ agonist.

34. The composition of Claim 33, wherein the second compound is another angiogenesis inhibitor selected from the group consisting of a tyrosine kinase inhibitor, an inhibitor of epidermal-derived growth factor, an inhibitor of fibroblast-derived growth factor, an inhibitor of platelet derived growth factor, an MMP inhibitor, an integrin blocker, interferon- α , interleukin-12, pentosan polysulfate, a cyclooxygenase inhibitor, carboxyamidotriazole, combretastatin A-4, squalamine, 6-(O-chloroacetyl-carbonyl)-fumagillol, thalidomide, angiostatin, troponin-1, and an antibody to VEGF.

35. The composition of Claim 33, wherein the second compound is an estrogen receptor modulator selected from tamoxifen and raloxifene.

36. The composition of Claim 14 further comprising a steroidal anti-inflammatory compound.

37. The composition of Claim 14 further comprising an anti-hypertensive compound.

38. A method of treating cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with radiation therapy.

39. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with a compound selected from:

- 1) an estrogen receptor modulator,
- 2) an androgen receptor modulator,
- 3) retinoid receptor modulator,
- 4) a cytotoxic agent,
- 5) an antiproliferative agent,
- 6) a prenyl-protein transferase inhibitor,
- 7) an HMG-CoA reductase inhibitor,
- 8) an HIV protease inhibitor,
- 9) a reverse transcriptase inhibitor, and

10) another angiogenesis inhibitor.

40. A method of treating cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with radiation therapy and a compound selected from:

- 1) an estrogen receptor modulator,
- 2) an androgen receptor modulator,
- 3) retinoid receptor modulator,
- 4) a cytotoxic agent,
- 5) an antiproliferative agent,
- 6) a prenyl-protein transferase inhibitor,
- 7) an HMG-CoA reductase inhibitor,
- 8) an HIV protease inhibitor,
- 9) a reverse transcriptase inhibitor, and
- 10) another angiogenesis inhibitor.

41. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 and paclitaxel or trastuzumab.

42. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 and a GPIIb/IIIa antagonist.

43. The method of Claim 42 wherein the GPIIb/IIIa antagonist is tirofiban.

44. A method of reducing or preventing tissue damage following a cerebral ischemic event which comprises administering a therapeutically effective amount of a compound of Claim 1.

45. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with a COX-2 inhibitor.

46. A method of treating or preventing preeclampsia which comprises administering a therapeutically effective amount of a compound of Claim 1.

47. A method of treating or preventing tissue damage due to bacterial meningitis which comprises administering a therapeutically effective amount of a compound of Claim 1.

48. A method to treat or prevent endometriosis which comprises administering a therapeutically effective amount of a compound of Claim 1.

49. A method of treating or preventing diabetic retinopathy which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with an α - γ agonist.

50. A method of treating acute myeloid leukemia which comprises administering a therapeutically effective amount of a compound of Claim 1.

15 51. A method of treating cancer which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with gene therapy.

20 52. A method of treating or preventing cancer which comprises administering a therapeutically effective amount of a compound which is a dual inhibitor of tyrosine kinase and cyclin dependent kinase.

53. The method of Claim 52 wherein the dual inhibitor is selected from:
N-(tert-Butyl)-2-{4-[(6-[(5-cyano-1,3-thiazol-2-yl)amino]-2-methylpyrimidin-4-yl)oxy)methyl]piperidin-1-yl}acetamide;
25 2-{[2-methyl-6-(piperidin-4-yloxy)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile;
2-{[2-methyl-6-(piperidin-4-ylmethoxy)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile; and
2-{[2-isopropyl-6-(piperidin-4-yloxy)pyrimidin-4-yl]amino}-1,3-thiazole-5-carbonitrile;
or a pharmaceutically acceptable salt thereof.

30 54. A method of treating or preventing ovarian hyperstimulation syndrome which is comprised of administering to a mammal in need of such treatment a therapeutically effective amount of a compound of Claim 1.

35 55. A method of treating or preventing ovarian hyperstimulation syndrome which comprises administering a therapeutically effective amount of a compound of Claim 1 in combination with an ovulation stimulator.

56. The method of Claim 55 wherein the ovulation stimulator is selected from
bromocriptine, luprolide, clomifene and pharmaceutically acceptable salts thereof, follicle
stimulating hormone, menopausal gonadotropin or mentropins, chorionic gonadotropin,
5 luteinizing hormone releasing hormone, luteinizing hormone and combinations thereof.

57. A method according to Claim 20 wherein the ocular disease is macular
edema.